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# *The University of North Carolina*

# RECORD

DESCRIBING

## *The Departments of Medicine and Pharmacy*

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CHAPEL HILL

# THE DEPARTMENT OF MEDICINE.

## FACULTY AT CHAPEL HILL.

FRANCIS PRESTON VENABLE, PH.D., D.SC., LL.D., PRESIDENT.

ISAAC HALL MANNING, M.D., *Dean of the Department at Chapel Hill and Professor of Physiology.*

CHARLES STAPLES MANGUM, A.B., M.D., *Professor of Anatomy.*

WILLIAM DEBERNIERE MACNIDER, M.D., *Professor of Pharmacology*

DAVID HOUGH DOLLEY, A.M., M.D., *Professor of Histology and Pathology.*

JOSHUA WALKER GORE, C.E., *Professor of Physics.*

HENRY VAN PETERS WILSON, PH.D., *Professor of Zoology. and Bacteriology.*

CHARLES HOLMES HERTY, PH.D., *Smith Professor of General and Agricultural Chemistry*

ALVIN SAWYER WHEELER, PH.D., *Associate Professor of Organic Chemistry.*

WILLIAM CHAMBERS COKER, PH.D., *Associate Professor of Botany.*

JAMES EDWARD LATTA, A.M., *Associate Professor of Physics.*

ROYALL OSCAR EUGENE DAVIS, PH.D., *Instructor in Chemistry.*

GREENE RAMSEY BERKELEY, A.B., M.D., *Demonstrator of Anatomy and of Histology.*

ROBERT BAKER LAWSON, M.D., *Assistant Demonstrator of Anatomy.*

JAMES HOWARD MCLAIN, *Assistant in Physics.*

EDGAR EUGENE RANDOLPH, A.M., *Assistant in Chemistry.*

STROWD JORDAN, A.B., *Assistant in Chemistry.*

FRANK PARKER DRANE, PH.B., *Assistant in Chemistry.*

HAMPDEN HILL, *Assistant in Chemistry.*

WILLIAM HERBERT KIBLER, A.B., *Assistant in Zoology.*

HUGH WHITE MCCAIN, A.B., *Assistant in Botany.*

## FACULTY AT RALEIGH.

HUBERT ASHLEY ROYSTER, A.B., M.D., *Dean of the Department at Raleigh and Professor of Gynecology.*

WISCONSIN ILLINOIS ROYSTER, M.D., *Professor of Medicine.*

AUGUSTUS WASHINGTON KNOX, M.D., *Professor of Surgery.*

RICHARD HENRY LEWIS, A.B., M.D., *Professor of Diseases of the Eye and of General Hygiene.*

KEMP PLUMMER BATTLE, JR., A.B., M.D., *Professor of the Diseases of the Ear, Nose, and Throat.*

HENRY McKEE TUCKER, M.D., *Professor of Obstetrics.*

ANDREW WATSON GOODWIN, M.D., *Professor of Diseases of the Skin and of the Genito-Urinary System.*

JAMES McKEE, M.D., *Clinical Professor of Mental and Nervous Diseases.*

JAMES WILLIAM McGEE, JR, M.D., *Professor of Diseases of Children.*

ROBERT SHERWOOD McGEACHY, M.D., *Instructor in Therapeutics.*

WILLIAM DeBERNIERE MacNIDER, M.D., *Instructor in Physical Diagnosis.*

RALPH SANDERS STEVENS, M.D., *Demonstrator of Clinical Pathology.*

WILLIAM MONCURE, JR., M.D., *Instructor in Orthopaedic Surgery.*

CLAUDE OLIVER ABERNETHY, B.S., M.D., *Physician in Chief to the Dispensary and Demonstrator of Anaesthetics.*

EDWIN BOUCHELLE FEREBEE, M.D., *Acting Clinical Professor of Nervous and Mental Diseases.*

JULIUS JACKSON BAREFOOT, JR., *Assistant Demonstrator of Clinical Pathology.*

## FOUNDATION.

Instruction in Medicine is given in two distinct schools, one situated at the seat of the University, Chapel Hill, and the other in the city of Raleigh.

The Department at Chapel Hill furnishes instruction in the fundamental branches of Medicine—those studies which constitute the scientific basis of medicine and surgery, and which compose the first two years of the medi-

cal curriculum. This Department was founded in 1890. In 1898 it was admitted to membership in the Association of American Medical Colleges; in 1901 it was incorporated as an integral part of the University on the same footing as the graduate and the professional departments.

Owing to the absence of clinical facilities at Chapel Hill, instruction in the third and fourth years of the medical curriculum is conducted by the Department at Raleigh. This Department was opened in the fall of 1902. It enjoys the hospital and other clinical advantages to be found in a city. Its course is limited to the curriculum of the third and fourth years.

## COURSE LEADING TO THE DEGREE OF DOCTOR OF MEDICINE.

In order to be recommended for the degree of Doctor of Medicine (M.D.), the student must have completed with credit the course of study outlined below. Candidates must have devoted at least four full years to the study of medicine and the fourth year, at least, must have been spent in this school, the other three in this or other recognized schools of medicine.

## THE CURRICULUM.

The course is arranged in four sessions of nine months each as follows:

### First Year.

Physics. Two hours a week: total, 64 hours.

General Chemistry. Three lectures and two laboratory hours a week in the fall; three lectures and six laboratory hours a week in the spring: total, 186 hours.

Zoology. Two lectures and six laboratory hours a week for twenty weeks: total, 160 hours.

Embryology. Two lectures and six laboratory hours a week for twelve weeks: total, 96 hours.

Anatomy. Ten hours a week for thirty weeks: total, 300 hours.

### Second Year.

Physiology. Six lectures a week throughout the year; six laboratory hours a week from February to May: total, 288 hours.

Physiological Chemistry and Toxicology. Two lectures and six laboratory hours a week until February 1: total, 128 hours.

Anatomy. Twelve hours a week for ten weeks: total, 120 hours.

Minor Surgery. Two hours a week for ten weeks: total, 20 hours.

Bacteriology. Two lectures and six laboratory hours a week until February 1: total, 128 hours.

Pathology. Two lectures and ten laboratory hours a week, beginning in February: total, 192 hours.

Materia Medica and Pharmacology. Five lectures and four laboratory hours a week, beginning in February: total, 144 hours.

### Third Year.

Medicine. Three lectures and six clinic and dispensary hours a week for thirty weeks: total, 270 hours.

Surgery. Three lectures and six clinic and dispensary hours a week for thirty weeks: total, 270 hours.

Obstetrics. Two lectures and one clinic hour a week for thirty weeks: total, 90 hours.

Physical Diagnosis. One lecture and three clinic hours a week for thirty weeks: total, 120 hours.

Hygiene. One lecture a week for thirty weeks: total, 30 hours.

Clinical Pathology. Two lectures and two clinic hours a week for thirty weeks: total, 120 hours.

Therapeutics. Three lectures a week for thirty weeks: total, 90 hours.

### Fourth Year.

Medicine. Three lectures and six clinic and dispensary hours a week for thirty weeks: total, 270 hours.

Surgery. Three lectures and six clinic and dispensary hours a week for thirty weeks: total, 270 hours.

Gynecology. One lecture and four clinic hours a week for thirty weeks: total, 150 hours.

Obstetrics: outdoor work. Total, 90 hours or more.

Pediatrics. Two lectures and one clinic hour a week for thirty weeks: total, 90 hours.

Clinical Pathology. One laboratory hour a week for thirty weeks: total, 30 hours.

Diseases of the Eye. One lecture and one clinic hour a week for thirty weeks: total, 60 hours.

Diseases of the Ear, Nose, and Throat. One lecture and one clinic hour a week for thirty weeks: total, 60 hours.

Diseases of the Skin and Genito-Urinary System. One lecture and two clinic hours a week for thirty weeks: total, 90 hours.

Nervous and Mental Diseases. One lecture and one clinic hour a week for thirty weeks: total, 60 hours.

## THE DEPARTMENT AT CHAPEL HILL.

### ADMISSION.

Candidates for admission and students already members of the school should present themselves to the President for registration on *Monday, Tuesday,* or *Wednesday, September 9, 10,* or *11, 1907,* and *Monday, Tuesday,* or *Wednesday, January 6, 7,* or *8, 1908.*

### ENTRANCE REQUIREMENTS.

Students desiring to matriculate will be required to present satisfactory certificates covering the equivalent of a four year high-school course; or to pass entrance examinations equivalent to it. Students who are unable to pass these examinations may matriculate provided they are not deficient

in more than one subject. The deficiency must be made up before entering the second year. For such deficient students instruction will be provided without additional tuition fees.

Students intending to study Medicine are advised to pursue, before applying for admission to the Department, the following course of undergraduate study:

English 1 (3), German 1 (3), Biology 1 (3), Physics A (3), Chemistry 1 (3), Chemical Laboratory 1 (½). Beginning with the session 1909-1910, this preparatory course will be a requirement for entrance to the Department of Medicine.

## EXPENSES.

The following are the charges a term payable at the beginning of each term in September and January respectively:

Tuition..... $35.00.
Fee for matriculation, etc....12.50.

In addition, first-year students pay a laboratory fee in histology of $5 a term; and in chemistry of $1.25 a term. Second-year students pay a laboratory fee in chemistry of $5.00 a term.

Good board is furnished at Commons Hall for $8.00 a month. The rent of unfurnished rooms in the dormitories ranges from seventy-five cents to $2.75 a month, for each occupant. For each room a charge of $2.00 a month is made for electric light and heat.

## PRIZES AND SCHOLARSHIPS.

The Harris Prize. (Established in 1895). Mrs. Thomas W. Harris offers, in honor of the late Dr. Thomas W. Harris, a pocket case of instruments to that student who shall make the best grade in Anatomy.

The Wood Scholarship. (Established in 1895). Mrs. Mary Sprunt Wood, of Wilmington, has founded, in memory of her husband, the late Dr. Thomas Fanning Wood, a scholarship of the value of ninety dollars.

## THE GENERAL PLAN OF INSTRUCTION.

The course of instruction provided at Chapel Hill extends over a period of two college years. In the number of hours and subjects it conforms to the requirements of the curriculum adopted by the Association of Medical Colleges in July, 1905, and its successful completion entitles the student to entrance into the third year of high grade medical colleges.

In the arrangement of the courses of study the attempt is made to follow their natural sequence. In the first year the student devotes his time to anatomical and chemical studies, Gross and Microscopic Anatomy, Embryology, Chemistry, and Physics, a thorough knowledge of which is necessary to the proper appreciation and understanding of the subjects to follow. Students who have had courses in Physics and Chemistry are advised to elect General Zoology and Botany rather than any of the second year studies.

In the second year Gross Anatomy is continued and completed. Physiology is begun and continues throughout the year. Physiological Chemistry, Toxicology, Bacteriology, and Minor Surgery are begun and completed in the first half of the year; Materia Medica, Pharmacology, Pathology, and Experimental Physiology in the second half; so that at the expiration of the two years the student will have completed the fundamental branches of medicine and be prepared to enter upon the study of the more practical subjects.

The Department is well equipped to pursue the methods of instruction required by modern educational ideals. It has an adequate corps of trained instructors and, when advisable, the classes are divided into small sections so that the work of each student is under the direct supervision and close observation of the instructor. A building containing ten rooms with a total floor space of six thousand square feet has been set apart for its use. In this there are two lecture rooms, the Bacteriological, Histological, Pathological, and Physiological laboratories, all of which are well equipped with modern conveniences and apparatus necessary for a careful training of the student and the more advanced work of the instructor. The laboratories devoted to microscopic work are especially well lighted. The dissecting rooms are located in another building and are adequately

equipped for the work of the student and the care of anatomical material. Instruction in Chemistry, Physics, Zoology, and Botany is given in the rooms used by the undergraduate students, which are described elsewhere. The University library, gymnasium, and the laboratories of all departments of the University are open to the medical students who are encouraged to avail themselves of the unusual opportunities for scientific training and literary culture.

Instruction is given by lectures, oral and written quizzes, and in the laboratory, and the student is encouraged to the constant use of reference, text-books, and journals. As far as possible, the lecture and laboratory courses are given contemporaneously, for in this way not only does the student acquire technical skill, but it is believed he will gain a more thorough grasp of the subject.

## COURSES OF INSTRUCTION.

### Chemistry.

Professor HERTY and Dr. DAVIS.

General Descriptive Chemistry (Chemistry 1). The elements are studied in a systematic manner. The laws governing their combination and the compounds resulting are considered with appropriate reference to their occurrence and relationships to medicine. The latter part of the course is taken up with organic chemistry. Text: Holleman's *Analytical Chemistry*; Remsen's *Organic Chemistry*.

Associate Professors WHEELER and MILLS and Dr. DAVIS.

Qualitative Analysis and Toxicology (Chemistry 9). Laboratory work with lectures. The behavior of the elements and their compounds is studied in the laboratory. Practice is given in the analysis of known and unknown mixtures with especial reference to the detection of poisons and determination of the purity of drugs. Text: Venable and Wheeler's *Qualitative Chemical Analysis* and the professor's notes.

Professor MANNING.

Physiological Chemistry and Urinary Analysis (Chemistry 10); lectures and laboratory work. The latter includes examinations of bones, blood, digestive juices, bile, milk, urine, and foods. Text: Simon's *Physiological Chemistry*.

## Physics.

Associate Professor LATTA.

Elementary Physics (Physics A.) The fundamental facts of Physics are studied with some special attention to heat and electricity Text-book, lectures, and experiments. Text: Carhart and Chute.

## Zoology.

Professor WILSON.

General Zoology (Zoology 1): an introductory course giving an outline of the classification and structure of animals, with consideration of the fundamentals of histology, embryology and physiology, and some consideration of biological theories; lectures with laboratory work. Text: Morgan. Elective in the first year.

## Botany.

Associate Professor COKER.

General Botany (Botany 1): an introduction to the structure and classification of plants; lectures with laboratory work. Elective in the first year.

## Vertebrate Histology.

Professor DOLLEY.

The principle tissues and organs of the vertebrate body are here studied according to the methods of modern microscopy. The individual student is instructed how to make, study, and sketch

microscopic preparations, including paraffin and celloidin sections, macerations, and mounts of fresh tissue. Texts: Syzmonowicz.

### Vertebrate Embryology.

Professor Dolley.

This course will consist chiefly in the study of organogeny in the chick and in the pig and the foetal membranes of mammals. The relationship to human embryology is fully discussed in the lectures. Text: Minot's *Laboratory Text-Book*.

### Anatomy.

Professor Mangum, Dr. Berkeley, and Dr. Lawson.

The method of instruction is one of dissection and demonstration rather than of lectures. In the first year the body is studied by systems, first the bones, then the muscles, etc. The student does much of the dissecting for himself, but the more difficult dissections are made by the instructor. Frequent practical examinations are held, upon which stress is laid, in order to enforce proper study of the cadaver. In the second year the study proceeds by regions. The student does all the dissecting, but is still under the supervision of an instructor, who examines him upon the work done, and indicates the bearing of anatomical facts upon surgical operations. During this year there is a special laboratory study of the anatomy of the central nervous system. Text: Cunningham or Gray; Whitehead's *Anatomy of the Brain*.

### Physiology.

Professor Manning.

This course consists of lectures and laboratory work. In the lectures a brief account of general and cell physiology is given as an introduction; then follows a detailed discussion of the facts and theories of human physiology with a brief account of such exper-

iments on the lower animals and such clinical observations and experiments as bear upon the subjects. Contemporaneously with the lectures, a laboratory course is given in which the student learns the methods of experimental physiology and performs such experiments, as will demonstrate the more obvious facts. Text: Howell, Stewart and Porter.

## Materia Medica and Pharmacology.

Professor MacNider.

In this course, consisting of lecture and laboratory work, the general appearance and composition of a carefully selected number of drugs, their preparations and doses, their physiological action and the indications for their rational usage, will be studied. Emphasis will be given to the pharmacopoeal standards. Text-book: Sollmannn.

## Pathology.

Professors Dolley and MacNider.

1. Pathological Histology. In this course the various morbid processes which affect the tissues are discussed in lectures and studied with the microscope. The laboratory is well supplied with pathological material, and each student stains, mounts, and studies a large number of sections extending over almost the whole range of pathology, upon which he is required to stand a practical examination. Text: Delafield and Prudden.

Professor MacNider.

2. Bacteriology. The student learns by practical experience the methods of cultivating, staining, and identifying the principal bacteria, the pathological significance of which is explained by lectures and demonstrated by inoculation of animals. In this way the chief bacteria are learned. The necessary manipulations are all carried on by the student, who thus obtains a useful practical knowledge of the subject. Text: Muir and Ritchie.

### Minor Surgery.

Professor MacNider.

The class practices the application of bandages, and learns the modern methods of dressing wounds. Text: Davis on Bandaging.

## THE DEPARTMENT AT RALEIGH.

### LOCATION AND FACILITIES.

The advantages afforded by the city of Raleigh for the advanced work of the University Medical Department are numerous. It is the most accessible of the State's larger cities and has already become one of its educational centres. Comprising, with the suburbs, a population of 25,000, it offers clinical facilities second to none in North Carolina. Three hospitals admit students of medicine for instruction. These hospitals are attended by the Faculty of the Medical Department and special care is given to invidual teaching with the varied material found in them. Besides these hospitals, there are available many public institutions which furnish valuable privileges to students of the University.

### ADMISSION.

Students will be admitted to the Medical Department at Raleigh upon completion of the preparatory two years' course at Chapel Hill, or its equivalent. Preliminary examinations will be required, if deemed necessary.

Students may be admitted to advanced standing who present evidence of having fulfilled the requirements of this department with respect to preliminary education, and having completed at accredited medical schools the courses required in the preceding years.

## REGISTRATION.

Students should present themselves to the Dean for registration on *Monday, Tuesday,* or *Wednesday, September 9, 10,* or *11, 1907,* and on *Monday, Tuesday,* or *Wednesday, January 6, 7,* or *8, 1908.*

## EXPENSES.

The following are the charges a term, payable at the beginning of each term:

Tuition..... $37.50

At graduation a charge of $5.00 is made for the diploma. Board may be obtained in the city at prices ranging from $12 50 to $15 a month.

## COURSES OF INSTRUCTION.

### Medicine.

Professor W. I. Royster and Dr. MacNider.

This subject is taught by lectures, ward classes, and general clinics. Cases are assigned to students and examinations are held upon their work. History-writing receives due attention.

In the third year are treated the infectious diseases, diseases of the blood and the digestive system. Individual instruction is given in the methods of physical diagnosis.

In the fourth year are studied the diseases of the respiratory system, heart, and kidneys, and the general diseases. There are weekly clinics and ward classes.

Texts: Hare, Tyson.

### Surgery.

Professor Knox, Dr. McGeachy and Dr. Abernethy.

In the third year are treated the principles of surgery, wounds,

minor operations, and bandaging. Ward classes and dispensary work furnish ample demonstrations of the subjects described in the lectures.

The fourth year is devoted to the general practice of surgery and the major operations. A special course in anaesthetics is given to each student. At all the clinics students will be able, by personal observations at short range, to witness every step of an operation and thus familiarize themselves with the details. Text: Da Costa.

### Obstetrics.

Professor TUCKER.

This course is conducted by means of lectures, recitations, and clinics. Fundamental obstetric principles receive the closest attention. A number of maternity cases are available for instructing students in the management of labor and the lying-in period. Each student must have attended the prescribed number of labors before he is entitled to a diploma. Text: Hirst.

### Gynecology.

Professor H. A. ROYSTER.

Lectures are given covering the entire field of the diseases of women from the simplest procedure to the more serious operations. Illustrative clinics are held weekly. In many cases students are allowed to assist in the operations. Practice in pelvic examinations is given constantly to each student, for the purpose of enabling him to make gynecological diagnoses. An abundance of material is always available. Text: Penrose.

### Therapeutics.

Dr. MCGEACHY.

The whole subject is thoroughly discussed by means of recitations and demonstrations, with constant drill on important drugs. Prescription writing. Text: Hare.

### Diseases of the Eye.

Professor Lewis.

This course is conducted by means of lectures with clinics and dispensary classes, and furnishes what is absolutely essential for the general practitioner. Mastery of the principles is insisted upon. An abundance of illustrative material is presented in clinics and dispensary classes. Text: May.

### Diseases of the Ear, Nose, and Throat.

Professor Battle.

This course consists of lectures and demonstrations with opportunities for investigating cases under direct supervision. A knowledge of these diseases is recognized as necessary for every physician. Particular care is devoted to personal demonstration. Text: Bishop.

### Pediatrics.

Professor McGee.

Lectures and bed-side demonstrations. Special emphasis is given to the diagnosis and treatment of the infectious diseases and to the care of infants. A large number of dispensary cases is seen. Text: Holt.

### Clinical Pathology.

Dr. Stevens and Mr. Barefoot.

Great stress is laid upon the association of laboratory technique with cases actually under observation Examinations of blood, urine, sputum, pus, tumors, etc., are made by the student with the assistance of the demonstrators. The equipment is excellent. Text: Simon.

### General Hygiene.

Professor Lewis.

The principles and laws of hygiene and sanitation and the most

approved practical methods established by modern science. A knowledge of hygiene and sanitation is very necessary for physicians in every community. Extraordinary opportunities will be given for investigating the working of the State sanitary laws. Text: Egbert.

### Nervous and Mental Diseases.

Clinical Professor McKee and Acting Clinical Professor Ferebee.

Practical instruction is given in the principles of the subject from material furnished by one of the State's largest insane hospitals.

### Diseases of the Skin and Genito-Urinary System.

Professor Goodwin.

Instruction is given by means of lectures, recitations, and dispensary work. Attention to correct diagnosis is insisted upon. Modern methods are carefully studied. Texts: Walker; Chetwood.

### Orthopaedic Surgery.

Dr. Moncure.

The chief aim in this course is to give a thorough knowledge of the basic principles which underlie this branch of surgery. Students are taught the application of the various bandages and apparatus, and are required to do much of the work themselves.

### The City Free Dispensary.

Dr. Abernethy, *Physician in Chief.*

By special arrangement, the city of Raleigh has allowed the establishment of a Free Dispensary, to which all the outdoor city patients come for treatment. Thus every possible case is utilized as clinical material for students of medicine. Here will be found unusual privileges of personal observation. At certain times each student may conduct the dispensary work on his own account under the direction of the instructors. Senior students are graded on their work in the Dispensary.

# DEPARTMENT OF PHARMACY.

## FACULTY.

FRANCIS PRESTON VENABLE, PH.D., D.SC., LL.D., PRESIDENT.
EDWARD VERNON HOWELL, A.B., PH.G., *Dean and Professor of Pharmacy.*
JOSHUA WALKER GORE, C.E., *Professor of Physics.*
HENRY VAN PETERS WILSON, PH.D., *Professor of Zoology.*
WILLIAM DEBERNIERE MACNIDER, M.D., *Professor of Pharmacology and Bacteriology*
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ALVIN SAWYER WHEELER, PH.D., *Associate Professor of Organic Chemistry.*
WILLIAM CHAMBERS COKER, PH.D., *Associate Professor of Botany.*
JAMES EDWARD LATTA, A.M., *Associate Professor of Physics.*
JAMES EDWARD MILLS, PH.D., *Associate Professor of Physical Chemistry.*
ROYALL OSCAR EUGENE DAVIS, PH.D., *Instructor in Chemistry.*
RALPH EMORY KIBLER, *Assistant in the Pharmaceutical Laboratory.*
EDGAR EUGENE RANDOLPH, A.M., *Assistant in Chemistry.*
STROWD JORDAN, A.B., *Assistant in Chemistry.*
FRANK PARKER DRANE, PH.B., *Assistant in Chemistry.*
HAMPDEN HILL, *Assistant in Chemistry.*
WILLIAM HERBERT KIBLER, A.B., *Assistant in Zoology.*
HUGH WHITE McCAIN, A.B., *Assistant in Botany.*

## FOUNDATION.

The Department of Pharmacy was established in 1897 and was opened for students in September of that year. Its location at the seat of the University assures to its students the most modern scientific instruction with all the laboratory facilities of the academic department, as well as the courses of instruction in allied branches. These opportunities will meet the requirements of a large number of students who were compelled heretofore to obtain their pharmaceutical education in other States. Briefly stated, the advantages are as follows:

1. Thorough, careful, *individual* training.
2. The practical experience derived from active work in the laboratories.
3. Intimate association with the other departments of the University, to all of which the student of pharmacy has access, and the daily contact with students pursuing various branches of learning.
4. The use of the large library and reading room and the well equipped gymnasium.
5. The comparatively small cost at which a two year's course may be obtained.
6. The length of the course, which consists of two sessions of nine months each,—nearly a fourth longer than in many of the Colleges of Pharmacy.

The success of the students of this Department in their examinations before State Boards has been very gratifying. Students of this Department have been applicants before the State Boards of Maryland, Pennsylvania, and North Carolina. None of the graduates of this Department applying for license before State Boards has failed to pass the examinations.

## ADMISSION.

Candidates for admission into the Department of Pharmacy should present themselves on the same days and at the same hours with candidates for admission into the College. For the next academic year, these days

will be *Monday, Tuesday,* or *Wednesday, September, 9, 10,* or *11, 1907,* and *Monday, Tuesday,* or *Wednesday, January 6, 7,* or *8, 1908.* The session of the Department of Pharmacy is of the same length as the College year, beginning *September 9, 1907,* and ending *June 5, 1908.*

Candidates for the degree of Ph.G. must be, on entering, at least 17 years old, and must have completed a high school course of study.

The members of the Department of Pharmacy enjoy all the privileges extended to other students in the University.

## EXPENSES.

The charges for each term are payable at the beginning of the term. They are as follows:

Tuition ... .....$30.00.
Registration and incidental fees....12.50.

For Chemistry 1 there is a fee of $1.25 a term; for Chemistry 9 and 10, a fee of $5.00 a term. In the prescription course there is a fee of $10.00

The students of Pharmacy are entitled to the use of the gymnasium, the library and reading room, and, in case of sickness, to medical attention and the use of the infirmary.

Good board is furnished at Commons Hall for $8.00 a month. The rent of unfurnished rooms ranges from 75 cents to $2.75 a month. For each room is made a charge of $2.00 a month for electric light and heating.

## PRIZES.

The Bradham Prize, offered by Mr. C. D. Bradham, of Newbern, N. C., will be given to the student making the highest general average during the two years of study.

The Gilpin Langdon Prize, offered by Messrs. Gilpin Langdon & Co., of Baltimore, Md., will be given to the student making the best line of preparations in the pharmaceutical laboratory.

Prizes will also be given:

1. For the best thesis.

2. For the best collection of native medicinal herbs.

3. For the best exhibit of chemical salts made by a second year student.

4. For the best work in the recognition of materia medica specimens.

5 To the student recognizing the largest number of pharmaceutical preparations.

## EXAMINATIONS.

Final examinations are held at the end of each term on the subjects embraced in the course.

Quizzes upon the different branches are held regularly. Specimen quizzes upon Materia Medica, Chemistry, and Pharmacy are held once a week, and consist in the recognition and correct writing of the official names of the specimens presented.

Students are required to make an average of 70 per cent. on all examinations and quizzes.

## COURSE LEADING TO THE DEGREE OF GRADUATE OF PHARMACY.

In order to be recommended for the degree of Graduate of Pharmacy (Ph.G.), the student must have completed with credit the course of study outlined below. This course extends over two sessions of nine months each. The student must have completed the work of both sessions in the Department of Pharmacy of this University, or of one session (the second) here after one in some other recognized college of Pharmacy. He must obtain satisfactory marking in attendance and make a general average of 70 per cent. in the various branches, and submit a satisfactory thesis. The thesis must be an original essay embodying the results of the student's personal research in some branch of pharmacy, which he has prosecuted under the direction of the professor who has assigned him the subject. The subject of such thesis must be announced on or before February 1 to the Dean of the Faculty. On May 2 the thesis shall be read before the Dean of the Department, subject to criticism and correction,

The corrected and approved thesis must be handed to the Registrar in type written form on or before May 15. It will be published at the discretion of the Dean of the Department. He must also have had a practical experience of at least four years with some qualified pharmacist in a dispensing store. Satisfactory evidence on this point must be submitted to the Dean of the Department, and a certificate deposited with the Registrar on or before May 15. Students who have not had the full four years' experience will be permitted to stand examinations for graduation; but their diplomas will be withheld until they shall have satisfied this requirement. Of the three years of experience required for license by the State Board of Pharmacy, the work done in the Pharmaceutical laboratory will count for one and only one.

### First Year.

Pharmacy 1 (5)*
Pharmacy 4 (4)
Elementary Physics A (2)
Chemistry 1 (3)

### Second Year.

Pharmacy 2 (5)
Pharmacy 5 (8)
Materia Medica (3)
Materia Medica and Pharmacology (5)
Chemistry 9 (3)
Chemistry 10 (3)

## COURSES OF INSTRUCTION.

### Pharmacy.

Professor HOWELL.

1. Theory and Practice of Pharmacy. This course consists of lectures

* Numbers in parentheses indicate number of hours a week.

upon the following subjects, with practical demonstrations and the employment of proper apparatus whenever necessary: metrology, comminution, heat, evaporation, distillation, sublimation; fusion, calcination, granulation, oxidation, reduction, etc.; solution of solids, liquids and gases; deliquescence, efflorescence, etc.; colation, filtration, decolorization, clarification, precipitation, etc.; maceration, expression, infusion, decoction, etc.; percolation, and study of the following: waters, syrups, honeys, glycerites, mucilages, mixtures, spirits, elixirs, liniments, collodions, tinctures, wines, vinegars, and fluid extracts. Text: Remington, *Theory and Practice of Pharmacy.* First year. *Both terms, five hours.*

2. Theory and Practice of Pharmacy. The official forms and preparations of drugs are taken up in detail. Beginning with the inorganic compounds, the salts are considered with regard to their commercial qualities and pharmaceutical uses and preparations. The organic compounds are studied, commencing with the salts of the organic acids and passing to the natural and organic compounds. Second year. *Both terms, five hours.*

3. Lectures on Pharmaceutical Botany. This course is preparatory to the study of Materia Medica, and takes up the study of the flower, the various topics of fruits, seeds, etc., and a careful study of the descriptive terms as applied to leaves, stems, and roots. Instruction is given in the gathering and proper mounting of specimens of the official herbs that grow in this vicinity. First year. *Spring term, two hours.*

4. Operative Pharmacy: a practical course with laboratory work. First year. *Both terms, four hours.*

5. Operative Pharmacy: a continuation of course 4. Second year. *Both terms, eight hours.*

### Materia Medica and Pharmacology.

Professor HOWELL.

1. Materia Medica. Lectures on the geographical and botanical sources of drugs; descriptions and uses of the same, together with their official preparation and doses. Opportunity is given to the stu-

dent to familiarize himself with most of the crude drugs and their preparations. Text: White and Wilcox. *Fall term, three hours.*

Professor MacNider.

2. Materia Medica and Pharmacology. This course is devoted to the study of the origin and constitution of remedial measures, their preparations and doses; and in particular, their physiological action and the indications for their rational use. Opportunity will be given to students to familiarize themselves with the more important crude drugs and their preparations. Instruction is given by means of lectures, recitations and demonstrations. The lectures intended to accompany the work in Toxicology are given as a part of the course in Materia Medica.

## Physics.

Professor Gore.

Elementary Physics (Physics A). The fundamental facts of Physics are studied with some special reference to heat and electricity. Text-book, lectures, and experiments. Text: Carhart and Chute. First year. *Both terms, three hours.*

## Chemistry.

Professor Herty and Dr. Davis.

1. General Descriptive Chemistry. The elements are studied in a systematic manner. The laws governing their combination, and the compounds resulting, are considered with appropriate reference to their occurrence and relationships to medicine. The latter part of the course is taken up with organic chemistry. Texts: Holleman's *Inorganic Chemistry*, and Remsen's *Organic Chemistry*, supplemented by lectures and quizzes. First year. *Both terms: lectures, three hours; laboratory, two hours (fall term).*

Associate Professor Wheeler.

9. Qualitative Analysis and Toxicology; laboratory work with lectures. The behavior of the elements and their compounds is studied in the laboratory. Practice is given in the analysis of known and

unknown mixtures with especial reference to the detection of poisons and determination of the purity of drugs. Text: Venable and Wheeler's *Qualitative Chemical Analysis* and the instructor's notes. Second year. *Spring term, three hours.*

## OPTIONAL COURSES.

The following courses are not required of students in Pharmacy but may be elected profitably:

### Elementary Physiology.

Professor MacNider.

The study of physiology is begun in the spring term of the first year, during which the physiology of digestion, the digestive glands, blood, respiration, metabolism, excretion, and animal heat is considered in lectures illustrated by experiments. The study is continued in the fall term of the second year by the consideration of the physiology of the muscles and of the nervous system. During this term also the student learns the methods of experimental physiology by means of class work in the laboratory. Texts: *American Text-Book*, Stewart, or Kirke. *Both terms, three hours.*

### Zoology.

Professor Wilson.

General Zoology. An introductory course giving an outline of the classification and structure of animals, with consideration of the fundamentals of histology, embryology, and physiology, and some consideration of biological theories; lectures with laboratory work. Text: Morgan. *Both terms, three hours.*

### Botany.

Associate Professor Coker.

General introduction to Systematic Botany, with special attention

to medical plants; laboratory and field work with recitations. *Spring term, three hours.*

### Prescription Filling.

Professor HOWELL.

In order that students may gain experience in prescription filling, a course in the practical everyday work of a drug store and in selling poisons and filling prescriptions is given. The prescriptions selected are those that will give the largest amount of practical experience. For this course a fee of ten dollars is required, to cover the cost of ingredients, bottles, labels, etc. *Both terms, at least two hours.*

### Chemistry.

Professor HERTY,

Industrial Chemistry. Lectures. The application of chemistry to the arts and industries. This course includes metallurgy, glass making, pottery, (*fall term*); food, clothing, building materials, explosives, photography, etc., (*spring term*) *Three hours.*

Agricultural Chemistry. Lectures This course includes the chemistry of the plant and the soil, and the discussion of plant food, etc. Many specimens have been collected in the Industrial Museum to illustrate this course and the preceding one. *Spring term, three hours.*

Dr DAVIS.

Quantitative Analysis and Assaying. Laboratory work. This course is intended to give the student a thorough grounding in analytical methods and manipulations. *Three hours.*

Professor HERTY.

Quantitative Analysis. Laboratory work. The student in this course is led further into the study and practice of analytical methods. The work may take any special direction desired by him, fitting him to be an agricultural chemist, iron chemist, manufacturing chemist, physician, druggist, or teacher of chemistry.

Encouragement is given to the student to make original researches. *Five hours.*

Mr. JEFFRESS.

Determinative Mineralogy. Lectures with laboratory work. Dana's *Text-Book of Mineralogy*. *Both terms, two hours.*

### Bacteriology.

Professor MACNIDER.

The student learns by practical experience the methods of cultivating, staining, and identifying the principal bacteria, and their pathological significance is explained by lectures and demonstrations by inoculation of animals. In this way the chief pathogenic bacteria are studied in pure culture on the various media, after which the methods of obtaining pure culture from mixtures of bacteria are learned. The necessary manipulations are carried out by the students, who thus obtain a practical knowledge of the subject which can be gained in no other way. *Fall term, six hours.*

Students in Pharmacy have also the privilege of attending any of the regular academic courses.

## THE PHARMACEUTICAL LABORATORY.

### OFFICERS.

EDWARD VERNON HOWELL, A.B., PH.G., DIRECTOR and *Professor of Pharmacy.*

RALPH EMORY KIBLER, *Assistant in the Pharmaceutical Laboratory.*

The rooms of the Pharmaceutical Laboratory are admirably adapted to this purpose. They are conveniently situated on the first floor, are well lighted and well equipped with water, electric lights, and gas To each student is assigned a desk, provided with lock and key, and containing all the apparatus necessary for the every day work of a pharmacist. In the store room is kept a supply of materials for practical work, as well as the

apparatus for the more complex operations. Ample space is provided for work at the prescription counter, where practical instruction in the compounding and dispensing of prescriptions is given.

A small deposit fee is required to cover the cost of breakage of apparatus. At the end of the session this fee will be returned, less the amount of breakage.

## OTHER LABORATORIES.

The laboratories of Physics, Chemistry, and Biology are open to students in Pharmacy. These laboratories are all equipped with the most approved apparatus for experimentation and illustration of lectures.

## READING ROOM AND LIBRARY.

The Pharmaceutical Department is provided with a well selected library and with a reading room, inaugurated by the class of 1897, in which are filed a large number of medical and pharmaceutical journals.

In addition to these advantages, students of this department enjoy the privileges of the University reading room, in which are filed all the leading newspapers and magazines, and free access to the University Library, which numbers forty-three thousand volumes and sixteen thousand pamphlets.

# STUDENTS IN MEDICINE.

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|---|---|---|
| Absher, Darius Cleveland, | *Second*, | Obids. |
| Adams, Charles Peronneau, | *Second*, | Waynesville. |
| Austin, John Watson, | *First*, | New London. |
| Barefoot, Julius Jackson, | *Fourth*, | Wilson. |
| Barefoot, Mordecai Lee, | *First*, | Dunn. |
| Barker, Christopher Sylvanus, | *Second*, | Trenton. |
| Benbow, John Thomas, | *First*, | East Bend. |
| Best, Henry Blount, | *Fourth*, | Wilson. |
| Boyd, D. L , Jr., | *First*, | Waynesville. |
| Bryson, Lorenzo Dow, | *First*, | Jacksonville. |
| Buckner, James Marion, | *Third*, | Democrat. |
| Bullock, Frank Jarvis, | *First*, | Autryville. |
| Bunn, Benjamin Hickmond, Jr., | *First*, | Rocky Mount, |
| Campbell, Alton Cook, | *First*, | Jonesboro. |
| Chapin, William Burdette, | *Second*, | Pittsboro. |
| Clark, Henry Toole, | *First*, | Scotland Neck. |
| Davis, James Wagner, | *First*, | Goshen. |
| Dick, Julius Vance, | *Fourth*, | Whitsett. |
| Dunlap, Lucius Victor, | *Second*, | Cedar Hill. |
| Eagles, Charles Sidney, | *Second*, | Saratoga. |
| Eason, Oscar, | *First*, | Archer. |
| Farmer, Clarence Ravenel, | *Second*, | Elm City, |
| Fellers, William Barber, | *Second*, | Roanoke, Va. |
| Finke, Otto Grattan, | *First*, | Burgaw. |
| Ferrell, John Atkinson, | *Fourth*, | Clinton. |
| Fiscus, James Hudson, | *First*, | Greensburg, Pa. |
| Fleming, William LeRoy, | *First*, | Hassell. |
| Gaskill, William McKendrie, | *First*, | Salisbury. |
| Geiger, Hugh St. Clair, | *First*, | Apopka, Fla. |

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| Gibbs, Emmett Wightman, | *Fourth*, | Ivy. |
| Glenn, Marshall Renfro, | *Fourth*, | Asheville. |
| Gold, Charles Fortune, | *First*, | Shelby. |
| Green, William Alexander, | *Fourth*, | Selma. |
| Green, William Willis, Jr., | *Third*, | Franklinton. |
| Griffin, Clyde Oden, | *First*, | Rocky Mount. |
| Harding, Samuel Asberry, | *First*, | Farmington. |
| Harper, James Madison, | *First*, | Kinston. |
| Harper, Robert Leslie, | *First*, | Wakefield. |
| Harris, David Watson, | *Third*, | Fayetteville. |
| Harrison, Harry, | *First*, | Statesville. |
| Hester, Joseph Robert, | *First*, | Wendell. |
| Holmes, Andrew Byron, | *First*, | Councils. |
| Hutchison, Francis, | *First*, | Charlotte. |
| Hyatt, Anderson Lawrence, | *First*, | Kinston. |
| Jackson, Arthur Flournoy, | *Second*, | West Point, Ga. |
| Johnson, Bayard Cleveland, | *Second*, | Ingold. |
| Johnson, Percy, | *Second*, | Palmyra. |
| Jones, John Craig, | *First*, | Forestville. |
| Jones, Troy Isaiah, | *First*, | Silas Creek. |
| Judd, Eugene Clarence, | *First*, | New Hill. |
| Kibler, William Herbert, | *Second*, | Morganton. |
| Kloman, Erasmus Helm, | *First*, | Warrenton, Va. |
| Liles, Nelson Picket, Jr., | *First*, | Wadesboro. |
| Lloyd, Braxton Bynum, | *Second*, | Chapel Hill. |
| Long, Edgar Miller, | *Second*, | Hamilton. |
| Lovill, Robert Jones, | *First*, | Mount Airy. |
| McCain, Hugh White, A.B., 1906, | *Second*, | Waxhaw. |
| McCall, Alvin Clay, | *First*, | Marion. |
| McGill. William Jackson, | *First*, | Clover, S. C. |
| McIver, Evander McNair, Ph.B , '04, | *Third*, | Jonesboro. |
| McPherson, Charles Ward, | *First*, | Liberty. |
| McPherson, Robert Gray, | *Third*, | Holmans Mills. |
| Macon, Gideon Hunt, | *First*, | Warrenton. |
| Mason, John Sanford, | *Second*, | Raleigh. |
| Maynard, Julian Decatur, | *Third*, | Teer. |

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| Mewborn, James Hyman, | *First*, | LaGrange. |
| Monk, George Monroe, | *Third*, | Newton. |
| Moore, William Houston, | *First*, | Wilmington. |
| Moorefield, Jones Leftwich, | *Second*, | Guilford College. |
| Morris, George Blythe, | *Second*, | Goldsboro. |
| Moser, William Dexter, | *First*, | Rock Creek. |
| Nichols, Austin Flint, A.B., 1905, | *Third*, | Roxboro. |
| Nicholls, James Benton, Jr., | *First*, | Windsor. |
| Noble, Robert Primrose, B.S., 1905, | *Fourth*, | Selma. |
| Pittman, Raymon Lupton, | *First*, | Fayetteville. |
| Rice, Wilbur Calhoun, | *Fourth*, | Sydney, Fla. |
| Rigsbee, Arthur Eugene, | *Second*, | Durham. |
| Riggsbee, Edgar Jackson, | *Second*, | Riggsbee. |
| Roberson, Foy, | *Second*, | Chapel Hill. |
| Roderiguez, Adolfo Bartoleme, | *First*, | Cuba. |
| Rowe, Henry Boydon, | *First*, | Salisbury. |
| Royal, Benjamin Franklin, A.B., 1906, | *Second*, | Morehead City. |
| Schonwald, John DeWitt, | *Second*, | Wilmington. |
| Scofield, Everett Joseph Stewart, | *Third*, | Wappingers Falls, |
| Shull, Joseph Rush, | *First*, | Lincolnton. [N.Y. |
| Shull, John Virgil, | *Second*, | Perth Amboy, N.J. |
| Spencer, Frederick Brunell, | *Second*, | Swan Quarter. |
| Sprinkle, Charles Nichols, | *First*, | Marshall. |
| Strickland, Jesse Armed, | *First*, | Wilson. |
| Strowd, William Amick. | *Second*, | Teer. |
| Sumner, Robert Ernest, | *First*, | Fletcher. |
| Sumner, Thomas Woodfin, | *First*, | Fletcher. |
| Surles, Junius Boyette, | *Second*, | Dunn. |
| Sutton, James Clifton, | *First*, | LaGrange, |
| Swindell, Charles LeRoy, | *Second*, | Wilson. |
| Talley, John Samuel, | *Second*, | Statesville. |
| Terrell, Albert Johnson, | *Third*, | Old Fort. |
| Thompson, John Melvin, | *Second*, | Graham. |
| Ward, Ivie Alphonso, | *Fourth*, | Ryland |
| Watson, John Blois, | *Third*, | Raleigh. |
| Watson, Walter, | *First*, | Newbern. |

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|---|---|---|
| Weatherly, John Bruce, | *Second*, | Jamestown. |
| Webb, Samplet Edgar, | *Third*, | Brown Summit. |
| Webb, Louis Harward, | *First*, | Chapel Hill. |
| Whichard, Murray Parmer, | *Second*, | Hobgood. |
| Whitaker, Ferdie Cary, | *First*, | Enfield. |
| Wiggins, John Carroll, | *First*, | Suffolk, Va. |
| Wilkins, Ralph Albert, | *First*, | Rutherfordton. |
| Williams, Leslie Shaw, | *Second*, | Drake's Branch, |
| Williams, Robert Cleveland, | *Second*, | Rose Hill. [Va. |
| Woodard, Albert Gideon, | *Fourth*, | Princeton. |
| Woodard, William Tilson, | *Fourth*, | Democrat. |
| Woollen, Glenn Lacy, | *Second*, | Spartanburg, S.C. |
| Wooten, Amos Monroe, Jr., | *First*, | Fountain. |

# STUDENTS IN PHARMACY.

| | | |
|---|---|---|
| Abernathy, John Graham, | *First*, | Lenoir. |
| Adams, Edward Clarence, | *First*, | Gastonia. |
| Andrews, Charles McDonald, | *Second*, | Chapel Hill. |
| Apgar, Raymond, | *First*, | Allentown, Pa. |
| Atkins, Donah Josiah, | *Second*, | Durham. |
| Bivens, Clement Reece, | *First*, | Wingate |
| Chapman, David Simeon, | *Second*, | Winterville. |
| Davis, Isaiah Iverson, Jr., | *First*, | Morganton. |
| Elliott, August Green, | *First*, | Durham. |
| Griffin, Hugh Alexander, | *First*, | Rocky Mount. |
| Hunt, Samuel Parker, | *Second*, | Enfield |
| Kibler, Ralph Emory, | *Second*, | Morganton. |
| Lutz, Horace Cleveland, | *First*, | Granite Falls. |
| McArthur, Robert Milton, | *First*, | Winston-Salem. |
| Morrow, Earl, | *First*, | Gastonia. |
| Nowell, William Robert, | *First*, | Wendell. |
| Palmer, Charles Remy, | *First*, | Salisbury. |
| Palmer, Robert Rodwell, | *First*, | Warrenton. |
| Pickard, Alfred Clarence, | *First*, | Chapel Hill. |
| Pope, Henry L., | *First*, | Lumberton. |
| Racey, Harold Hastings, | *First*, | Jensen, Fla. |
| Reed, Charles Harmon, Jr., | *Second*, | Herndon, Va. |
| Richardson, Alonzo Ruffin, | *First*, | Wendell. |
| Roberson, Foy, | *First*, | Chapel Hill. |
| Robinson, John Linwood, | *First*, | Lowell. |
| Ross, Charles Leon, | *First*, | Ayden. |
| Secrest, Andrew McDowd, | *Second*, | Monroe. |
| Shell, Christian Charles, | *First*, | Lenoir. |
| Vestal, Henry Willis, | *First*, | Kings Mountain. |
| Whittington, James Benbow, | *First*, | East Bend. |